

CLAIMS

What is claimed is:

1 1. A method of operating an enclosure by use of a remote computing system, wherein
2 the enclosure is located at a customer residence and the enclosure is coupled to a local
3 microcontroller, the local microcontroller in communication with the remote computing
4 system via a network connection, the method comprising:

5 receiving a tracking number at the remote computing system, the tracking number
6 corresponding to a package to be delivered to the enclosure;

7 in response to receiving the tracking number, downloading the tracking number
8 from the remote computing system to the microcontroller via the network connection;

9 saving the tracking number in a local memory in the microcontroller;

10 scanning a bar code on the package at a scanner coupled to the controller;

11 transforming the bar code to a checksum;

12 comparing the checksum to the tracking number in the local memory;

13 if the checksum matches the tracking number, opening a lock on the enclosure for
14 delivery of the package, the lock operably coupled to the controller

1 2. The method of claim 1, wherein the network connection is an internetwork
2 connection.

1 3. The method of claim 2, wherein the internetwork connection employs a VSAT
2 medium.

1 4. The method of claim 1, wherein the scanner is physically located at the enclosure.

1 5. The method of claim 4, wherein the enclosure includes a transponder, the
2 transponder in communication with the microcontroller.

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1 6. The method of claim 5, further comprising:

2 after opening the lock, sending an electronic delivery confirmation message from
3 the transponder to a handheld device in the vicinity of the enclosure, the handheld device
4 operated by a party which has delivered the package to the enclosure.

1 7. The method of claim 1, wherein the enclosure includes a printer coupled to the
2 microcontroller.

1 8. The method of claim 7, further comprising:

2 after opening the lock, sending a confirmation message from the microcontroller to
3 the printer.

1 9. The method of claim 8, further comprising:

2 printing the confirmation message.

1 10. The method of claim 1, further comprising:

2 after opening the lock, sending a confirmation message to a host computer for a
3 delivery company from the remote computing system via the internet, the confirmation
4 message encoded as an e-mail message.

1 11. A method of operating an enclosure by use of a remote computing system, the
2 remote computing system operably coupled to the enclosure via a network connection,
3 wherein entry to the enclosure is controlled by an automated lock, the method
4 comprising:

5 receiving a first tracking number at a portable handheld device, the first tracking
6 number corresponding to a package to be delivered to the enclosure;

7 receiving the first tracking number wirelessly from a transponder resident on the
8 handheld device to a receiver coupled to the enclosure;

9 in response to receiving the first tracking number, sending the first tracking
10 number to the remote computing system via the network;

11 comparing the first tracking number to a checksum stored at the remote computing
12 site;

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13 in response to comparing the first tracking number, sending an activation
14 command to the enclosure from the remote computing site via the network connection;
15 in response to the activation command, opening the automated lock for deposit of
16 the package.

1 12. The method of claim 11, wherein the receiving the first tracking number further
2 includes wirelessly receiving the first tracking number in the portable handheld device.

1 13. The method of claim 11, wherein the network is an internetwork.

1 14. The method of claim 13, wherein the internetwork operates over a VSAT
2 connection.

1 15. The method of claim 11, wherein the portable handheld device includes a bar code
2 scanner.

1 16. The method of claim 11, wherein the receiving the first tracking number further
2 includes scanning a barcode labeled on the package, wherein the barcode indicates the
3 first tracking number.

1 17. The method of claim 11, wherein the enclosure includes a transponder for wireless
2 communication.

1 18. The method of claim 17, further comprising:

2 after opening the automated lock, wirelessly sending a confirmation message
3 indicating delivery of the package from the transponder on the enclosure to the portable
4 handheld device.

1 19. The method of claim 18, wherein the transponder on the enclosure operates over
2 radio frequencies.

1 20. The method of claim 19, wherein the confirmation message is encrypted.

1 21. The method of claim 11, wherein the enclosure includes a printer.

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1 22. The method of claim 21, further comprising:

2 after opening the automated lock, printing a receipt at the printer, the receipt
3 confirming delivery of the package at the enclosure.

1 23. A method of operating an enclosure by use of a remote computing system, the
2 enclosure secured by an automated lock operably coupled to a local microcontroller,
3 the remote computing system in communication with the microcontroller via a
4 network connection, wherein the enclosure includes a bar code scanner operably
5 coupled to the microcontroller, the method comprising:

6 scanning a bar code printed on a label affixed to a package to the bar code scanner;
7 communicating the bar code from the scanner to the microcontroller;
8 receiving the barcode at the remote computing system from the microcontroller via
9 the network;

10 in response to receiving the barcode, comparing the barcode at the remote
11 computing system to a tracking number for the package;

12 in response to comparing the barcode, sending an activation command from the
13 computing system to the microcontroller via the network;

14 opening the lock in response to the command for delivery of the package.

1 24. The method of claim 23, wherein the network is an internetwork.

1 25. The method of claim 24, wherein the internetwork operates over a VSAT link.

1 26. The method of claim 24, wherein the internetwork operates over a fiberoptic link.

1 27. The method of claim 23, wherein the network is a publicly switched telephone
2 network.

1 28. The method of claim 23, further comprising:

2 in response to the activation command, opening the lock by use of the
3 microcontroller for delivery of the package.

1 29. The method of claim 28, further comprising:

2 after opening the lock, printing a confirmation of delivery on a printer affixed to
3 the enclosure.

1 30. A method of operating a storage device for the delivery and pick-up of goods, the
2 storage device including an automated lock operably coupled to a local microcontroller
3 fixed to the storage device, the microcontroller in communication with a remote
4 computing system via a wide area network, the method comprising:

5 sending a request from the microcontroller to the remote computing system to
6 receive a plurality of codes, each of the plurality of codes identifying a different company
7 from a plurality of delivery companies;

8 in response to the request, downloading the plurality of codes from the remote
9 computing system to a microcontroller from a remote computing system;

10 receiving a delivery company code at an input device locally coupled to the storage
11 device;

12 searching for the delivery company code against the plurality of codes in the
13 microcontroller;

14 if the searching for the delivery company code is successful, opening the
15 automated lock by use of the microcontroller.

1 31. The method of claim 30, wherein the input device is one of a keyboard, a smart
2 card reader, a radio receiver, an infrared scanner, a laser based scanner.

1 32. The method of claim 30, wherein the wide area is an internetwork.

1 33. The method of claim 32, wherein the internetwork operates over at least one of a
2 VSAT link and a fiber optic network.

1 34. The method of claim 30, wherein the wide area network is a publicly switched
2 telephone network.

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1 35. The method of claim 30, further comprising:
2 after opening the lock, printing a confirmation on a printer affixed to the storage
3 device.

1 36. The method of claim 35, wherein the plurality of code includes at least four codes.

1 37. The method of claim 35, wherein the plurality of codes includes at least eight
2 codes.

1 38. A storage device for the delivery and pick-up of goods, the storage device
2 comprising:
3 a plurality of enclosures for receiving and securing the goods, the plurality of
4 enclosures being located at a centralized drop-off site, each of an enclosure including a
5 locking mechanism and an input device for unlocking the enclosure coupled to a plurality
6 of enclosures;

7 a host system including a server, a database and a memory in communication with
8 the plurality of enclosures, the host system being located remotely from the plurality of
9 enclosures, the host system providing an activation to lock each enclosure when a product
10 code unique to a purchased product is matched with an identifier code located on the
11 purchased product.

1 39. The device of claim 38, wherein the host system generates a opening code
2 transmitted to a customer, wherein the customer unlocks the enclosure by enter the
3 opening code at the enclosure.

1 40. The device of claim 38, wherein the memory stores delivery company identifiers
2 for delivery companies.

1 41. The device of claim 40, wherein each delivery company identifier is unique to one
2 delivery company.

1 42. A storage device for the delivery and pick-up of goods, the storage device
2 comprising:

3 a plurality of enclosures for receiving and securing the goods, at least a portion of
4 the enclosures being located at different drop-off sites, each of an enclosure including a
5 locking mechanism and input device for unlocking the enclosure;

6 a host system including a server, a database and a memory in communication with
7 the plurality of enclosures, the host system being located remotely from the plurality of
8 enclosures, the host system providing an activation to lock each enclosure when a product
9 code unique to a purchased product is matched with an identifier code located on the
10 purchased product

11 wherein at least a first portion of the plurality of enclosures are located at home
12 locations of customers.

1 43. The device of claim 42, wherein at least a second portion of the plurality of
2 enclosures are located remotely from the home locations of customers.

1 44. A storage device for the delivery and pick-up of goods, the storage device
2 comprising:

3 a plurality of enclosures for receiving and securing the goods, at least a portion of
4 the enclosures being located at different drop-off sites, each of an enclosure including a
5 locking mechanism and input device for unlocking the enclosure;

6 a host system including a server, a database and a memory in communication with
7 the plurality of enclosures, the host system being located remotely from the plurality of
8 enclosures, the host system providing an activation to unlock each enclosure when a
9 product code unique to a purchased product is matched with an identifier code located on
10 the purchased product.

1 45. A storage device for the delivery and pick-up of goods, the storage device
2 comprising:

3 a plurality of enclosures for receiving and securing the goods, at least a portion of
4 the enclosures being located at different drop-off sites, each of an enclosure including a
5 locking mechanism, an input device for locking or unlocking the enclosure and an
6 enclosure memory;

7 a host system including a server, a database and a memory in communication with
8 the plurality of enclosures, the host system being located remotely from the plurality of
9 enclosures, the host system providing an activation to unlock or lock each enclosure when

10 a product code associated with a purchased product is matched with an identifier
11 code located on the purchased product, wherein the host system downloads a product code
12 to the enclosure memory to unlock or lock the enclosure.

1 46. The device of claim 45, wherein the host system downloads the product code to the
2 enclosure memory prior to delivery a product to an enclosure by a delivery company.

1 47. A storage device for the delivery and pick-up of goods, the storage device
2 comprising:

3 a plurality of enclosures for receiving and securing the goods, at least a portion of
4 the enclosures being located at different customer dwelling sites, each of an enclosure
5 including a locking mechanism, an input device for unlocking or unlocking the enclosure
6 and an enclosure memory;

7 a host system including a server, a database and a memory in communication with
8 the plurality of enclosures, the host system being located remotely from the plurality of
9 enclosures, the host system providing an activation to unlock or lock each enclosure when
10 a delivery company identifier of a delivery company is matched with an identifier code of
11 the delivery company at the customer dwelling site.

1 48. The device of claim 47, wherein the host system downloads the delivery company
2 identifier of the delivery company to the enclosure memory.

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3 49. A storage device for the delivery and pick-up of goods, the storage device
4 comprising:

5 a plurality of enclosures for receiving and securing the goods, at least a portion of
6 the enclosures being located at different customer dwelling sites, each of an enclosure
7 including a locking mechanism, an input device for unlocking or locking the enclosure
8 and an enclosure memory;

9 a host system including a server, a database and a memory in communication with
10 the plurality of enclosures, the host system being located remotely from the plurality of
11 enclosures, the host system providing an activation to unlock or lock each enclosure when
12 one of when a product code associated with a purchased product is matched with an
13 identifier code located on the purchased product, wherein the host system downloads a
14 product code or a delivery company identifier of a delivery company to the enclosure
15 memory to unlock or lock the enclosure and is matched with an identifier code of the
16 delivery company or a product code unique to a purchased product at the customer
17 dwelling site.

1 50. A product delivery system, comprising:

2 a host system including at least one host system server with a host system memory;
3 a customer interface coupled to the host system;
4 wherein the host system provides a delivery company identifier to a customer that
5 authenticates a delivery company as authorized to deliver products to a customer pick up
6 site.

1 51. The system of claim 50, wherein the delivery company identifier is an
2 alphanumeric code, a barcode, a smartcard, a handheld device.

1 52. The system of claim 51, wherein the product is product purchased through the
2 internet, a product purchased by mail order.

1 53. The system of claim 52, wherein the host system further provides a verification of
2 product delivery to the customer pick up site.

1 54. The system of claim 53, wherein the verification of product delivery to the
2 customer pick up site is received by the delivery company.

- 1 65. The method of claim 64, further comprising:
2 locating the purchased item by the seller.
- 1 66. The method of claim 65, further comprising:
2 generating a tracking identifier for the purchased item by the host system.
- 1 67. The method of claim 66, further comprising:
2 marking the purchased with a bar coded tracking identifier and the address of the
3 collection point.
- 1 68. The method of claim 67, further comprising:
2 forwarding the tracking identifier to the designated collection point in preparation
3 of delivery of the purchased item.
- 1 69. The method of claim 68, further comprising:
2 reserving a receiving container for the purchased item.
- 1 70. The method of claim 69, wherein the host system database includes a list of
2 customers, a list of collection points, a list of shipping rates and a list of pending deliveries
3 to the collection points.
- 1 71. The method of claim 70, wherein the host system database further includes an
2 ability to dynamically delivery charges and fees, an ability to provide delivery discounts
3 based on multiple deliveries to the same collection point at the same time, an ability to
4 pro-rata the discount based on the number of deliveries.
- 1 72. The method of claim 71, wherein the delivery fee is determined by one of a flat
2 fixed fee, a flat dynamic fee, a fee which includes a flat consolidation discount, and a
3 prorata consolidation discount based on the number of deliveries to the collection site.
- 1 73. The method of claim 72, wherein the seller site is coupled to a carrier's site.
- 1 74. The method of claim 73, wherein the seller site receives from the carrier's site
2 receives address, price and tracking identifiers from the carrier site.

1 75. A method of determining a delivery address for a purchase product, comprising:
2 providing a host system coupled to one or more retail site systems, the host system
3 including a database with a plurality of delivery addresses;
4 inputting a requested delivery address for a purchaser by the retail site;;
5 determining at least one collection point for the requested delivery address by the
6 host system;
7 calculating a delivery fee for each collection point by the host system;
8 wherein the host system includes a list of couriers.

1 76. The method of claim 75, further comprising:
2 sending the purchaser a list of collection points and fees for each collection point.

1 77. The method of claim 76, further comprising:
2 determining at the host system if the purchaser is registered in the database.

1 78. The method of claim 77, wherein registration of the purchaser requires a contact
2 point for the purchaser.

1 79. The method of claim 77, wherein registration of the purchaser requires a unique
2 identifier of the purchaser.

1 80. The method of claim 77, further comprising:
2 completing a purchase transaction for the product with the seller and designating a
3 selected delivery site and price received from the host system.

1 81. The method of claim 80, further comprising:
2 locating the purchased item by the seller.

1 82. The method of claim 81, further comprising:
2 generating a tracking identifier for the purchased item by the host system.

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- 1 83. The method of claim 82, further comprising:
2 marking the purchased with a bar coded tracking identifier and the address of the
3 collection point.
- 1 84. The method of claim 83, further comprising:
2 forwarding the tracking identifier to the designated collection point in preparation
3 of delivery of the purchased item.
- 1 85. The method of claim 84, further comprising:
2 reserving a receiving container for the purchased item.
- 1 86. The method of claim 85, wherein the host system database includes, a list of
2 customers, a list of collection points, a list of shipping rates and a list of pending deliveries
3 to the collection points.
- 1 87. The method of claim 86, wherein the host system database further includes an
2 ability to dynamically delivery charges and fees, an ability to provide delivery discounts
3 based on multiple deliveries to the same collection point at the same time, an ability to pro-
4 rata the discount based on the number of deliveries.
- 1 88. The method of claim 87, wherein the delivery fee is determined by one of a flat
2 fixed fee, a flat dynamic fee, a fee which includes a flat consolidation discount, and a
3 prorata consolidation discount based on the number of deliveries to the collection site.
- 1 89. The method of claim 88, wherein the host site is coupled to a carrier's site.
- 1 90. The method of claim 89, wherein the seller site receives address, price and tracking
2 identifiers from the carrier site.